

REMARKS

Claims 1-5, 7-9, and 11-13 are pending in the present application, claim 13 having been added, claims 2, 3, 8, and 9 having been withdrawn by the Examiner, and claims 6 and 10 having been cancelled herein without prejudice or disclaimer. The Office Action and cited references have been considered. Favorable reconsideration is respectfully requested.

Applicants note with appreciation the Examiner's acknowledgement from the Office Action Summary at paragraph 12 that certified copies of all priority documents have been received by the U.S.P.T.O.

Applicants also note with appreciation the Examiner's acknowledgement that the March 20, 2006, Information Disclosure Statement (IDS) has been received by the U.S.P.T.O. and the references listed thereon have been considered.

Oath/Declaration

The oath or declaration of the present application is allegedly defective because it is a foreign declaration and has not been executed in accordance with 37 CFR 1.69. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying the present application by application number and filing date is attached with this Amendment. Reconsideration of the oath or declaration is respectfully requested.

Drawings

The drawings were objected to because of the following informalities: in Figure 1, the arrow headed lead line for each occurrence of numeral 32 is inaccurate since numeral 32

indicates the blade shaft, not the entire assembly as implied, and the lead line for each should be changed to a line that contacts the shaft; in Figure 2, for the same reason as Figure 1, the lead line for numeral 32 should be changed to a line that contacts the shaft. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office Action.

Applicants note this objection and have amended Figures 1 and 2 to conform with the Examiner's suggestions and in compliance with 37 CFR 1.121(d). Corrected drawings (marked as "Replacement sheet") are attached with this Amendment. Annotated drawings showing the changes are also attached. Withdrawal of this objection is respectfully requested.

Abstract

The Abstract of the disclosure was objected to because of the use of "means" in lines 11 and 12. Applicants note this objection and have amended the Abstract to address the issue raised by the Examiner. Withdrawal of this objection is respectfully requested.

Specification

The Specification was objected to because of informalities in pages 6-7 and 9-13 of the Specification. The Examiner kindly provided suggestions to amend these informalities in the Office Action. Applicants note with appreciation the Examiner's suggestions and have amended the Specification to conform to the Examiner's suggestions. Withdrawal of this objection is respectfully requested.

Claim Objections

Claims 1, 4-7, 10 and 12 were objected to because of formalities. Specifically, in claim 1, the recitation “supporting the web of corrugated board ... by the at least one circular blade (34)” is allegedly not sufficiently clear as to what is being set forth. The Examiner suggested to delete the comma “,” in each of line 11 and 12 of claim 1, and amend “blade shaft (32)” in line 11 to “at least one circular blade (34)” for clarity.

Applicants note with appreciation the Examiner’s suggestions and have amended claim 1 to conform to the Examiner’s suggestion. Withdrawal of the claim objection is respectfully requested.

Claim Rejections under 35 U.S.C. §112

Claims 5 and 12 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Specifically, the Specification and drawings allegedly do not provide support for grooves that cooperate with ribs for fixing the shells tangentially as set forth in claims 5 and 12. Applicants respectfully traverse this rejection.

Applicants respectfully direct the Examiner’s attention to page 6, line 22 to page 7, line 2 of the Specification. Page 6, lines 22-29 recites: “[t]he inside 40 of the shell 37 is provided with corresponding semi-circular ring grooves 43 which the ribs 42 engage with. Each shell 37 is provided with two ribs 42. ... For tangentially fixing the shells 37 on the roll core 17 i.e. for fixation in the peripheral direction and for torque transmission, the roll core 17 is provided with externally open holes 44, each of which accommodating a retaining pin 45 which,

after being inserted in the hole 44, projects radially from the roll core 17.” It is clear that the Specification provides sufficient support for grooves that cooperate with ribs for fixing the shells tangentially as set forth in claims 5 and 12. Withdrawal of this rejection is therefore respectfully requested.

Claims 1, 4-7, 10 and 12 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim subject matter of claimed invention. Specifically, in claim 1, the recitation “has at least one circular blade” allegedly renders the claim vague and indefinite as to what is being set forth and appears to be inaccurate. The Examiner suggested inserting “thereon” after “blade (34)” for clarity.

Applicants note this rejection and have amended claim 1 to conform to the Examiner’s suggestion. The 35 U.S.C. §112 issue raised by the Examiner is therefore addressed. Withdrawal of the rejection is respectfully requested.

Claim Rejections under 35 U.S.C. §102/103

Claims 1 and 11 were rejected under 35 U.S.C. § 102(b) as being anticipated by German Publication 22 25 152 (“GP’152”). Claim 7 was rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over GP’152. Claims 4, 5, and 12 were rejected under 35 U.S.C. § 103(a) as being obvious over GP’152 in view of U.S. Patent No. 3,285,642 (“Sauer”). Claims 6 and 10 were rejected under 35 U.S.C. § 103(a) as being obvious over GP’152 in view of U.S. Patent No. 3,942,210 (“Clark”). Applicants respectfully traverse these rejections.

Applicants respectfully submit that because claims 6 and 10 are cancelled, the 35 U.S.C. § 103 rejection of claims 6 and 10 is moot. Further, because subject matter of claims 6 and 10 is incorporated into amended claim 1, the 35 U.S.C. § 103 rejection of claims 6 and 10 will be discussed together with the 35 U.S.C. § 102 rejection of claim 1.

The present application discloses a fastening pin. As shown in Figure 13 of the present application, a fastening pin 75 includes two threaded portions 76 and 77 of different pitches. Using the fastening pin 75, assembly of shells 37d, as shown in Figure 13, becomes easier and quicker to handle. During the assembly, the fastening pin 75 is screwed into a hole 72 in a half shell 37d until the fastening pin 75 stops. Then, the half shell 37d is placed on the roll core 17d, with the pins 45d engaging with a halfway open blind hole 46d and fixing the half shell 37d in a certain position on the core 17d. Because the outer end of the fastening pin 75 has a hexagon socket, after the half shell 37d has been fixed on the core 17d, the threaded fastening pin 75 is further screwed from outside through the hole 72 with the internal thread portion 77 into the internal thread 74 (shown in Figure 14) of the threaded insert 70 by an associated implement. With the pitch of the internal thread 74 inside the threaded insert 70 exceeding the pitch of the thread 73 inside the shell 37d, the threaded fastening pin 75 driven per revolution faster into the roll core 17d than it is screwed out of the shell 37d. In this way, the shell 37d is fastened on the roll core 17d so as to ensure that the threaded pin 75 is driven into a sufficient number of flights in the threaded insert 70, a gap must remain in the radial direction in the vicinity of the two holes 69 and 72 when the half shell 37d is placed on the roll core 17d. This gap is closed when the threaded pin 75 is screwed in. Therefore, mounting of a cutting

arrangement is simplified and the reliability of the mounting is enhanced by using fastening pins according to the claimed invention.

GP'152 discloses a blade shaft 1 which has at least one circular blade 7, a brush roll 9. The brush roll includes shells on a roll core 2, bristles 91, 92 standing on the shells. The shells include a basic structure, an outside and an inside, torque-transmission means for transmitting torque from the roll core 2 to the basic structure and fastening means for fixing the basic structure to the roll core 2.

However, GP'152 does not disclose holes in the roll core 2 and on the inside of the shells, respectively accommodating a fastening pin with two threaded portions of different pitch for non-rotary connection of the shell with the roll core, as recited in claim 1.

In addition, clamp-flanges 61 in GP'152 are used as fastening means. GP'152 also does not disclose receiving means associated with the fastening means, whereas the receiving means comprise two threaded portions of different pitches for receiving the fastening means, as recited in claim 12. Further, the clamp-flanges are disadvantageous due to their reduced safety concerning clamping and higher demands of accessibility.

Clark discloses a rotary brush construction. As shown in Figures 1 and 2 of Clark, the rotary brush construction includes a support plate 36, wherein a plurality of replaceable, semi-cylindrical, bristle-carrying sections 38 removably attached thereto. The bristle-carrying sections 38 are oppositely mounted on the support plate 36. The means attaching the bristle-carrying sections 38 to the support plate 36 can be removed and replaced. To this end, each support plate 36 is provided with a center opening 39. Further, each connecting bar 26' and 26'' is provided with a plurality of axially spaced threaded bores 41 which are aligned with the

openings 39. A screw 42 extends through each opening 39 and engages with the bore 41 to fixedly connect each of the brush sections 14 to the hub assembly 12. Each screw 42 has only one threaded portion with one pitch. However, Clark also does not disclose fastening pin with threaded portions of different pitches, as recited in claim 1.

Sauer discloses a shell comprising a basic structure, an outside and an inside, torque-transmission means and fastening means for fixing a basic structure to a roll core. However, Sauer teaches screws that are used parallel to the inside and the outside, not perpendicular to the inside and outside, as disclosed in the present application. Further, Sauer does not teach fastening pins that comprises two threaded portions of different pitches, as recited in claim 1, and Sauer does not teach that receiving means as through holes through the shell comprising two threaded portions of different pitch for associating the fastening pin, as recited in claim 12.

Because GP'152 does not disclose each and every features of claim 1, claim 1 is allowable over GP'152. Further, as discussed above, both Clark and Sauer do not overcome the deficiencies of GP'152. Therefore, claim 1 is also allowable over GP'152, Clark and Sauer, whether considered individually or combined. Accordingly, claims 4-5, 7 and 11-12 are also allowable by virtue of their dependency from claim 1 and features recited therein. Withdrawal of these rejections is respectfully requested.

New Claim

By the present Amendment, Applicants submit that claim 13 has been added. Support for these features can be found at least in the Specification and Figures as originally

filed. In particular, support for claim 13 can be found at least on page 11, lines 1-28, and Figure

4. As such, Applicants submit that no new matter has been added.

According to the claimed invention, joining plates and corresponding pins are used for mounting shells on a roll core of a cutting arrangement. As a result, the mounting process is simplified and expedited since no tools are necessary, or at the utmost, only a hammer is needed.

None of the applied references disclose or suggest the features of new claim 13. For example, GP'152 does not disclose joining plates as fastening means for a cutting arrangement, wherein each joining plate comprises holes for receiving securing pins, as recited in claim 13, and none of the further cited prior art discloses joining plates and corresponding pins as fastening means for shells on a roll core of a cutting arrangement for simplifying a mounting process.

Conclusion

For at least these reasons, Applicant respectfully submits that claims 1, 4-5, 7 and 11-13 are patentable over the prior art of record whether taken alone or in combination as proposed in the Office Action.

In view of the above amendment and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections of record. Applicant submits that the application is in condition for allowance and early notice to this effect is most earnestly solicited.

Appln. No. 10/572,581
Amdt. dated March 30, 2009
Reply to Office action of December 30, 2008

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If the Examiner has any questions, he is invited to contact the undersigned at 202-628-5197.

Respectfully submitted,

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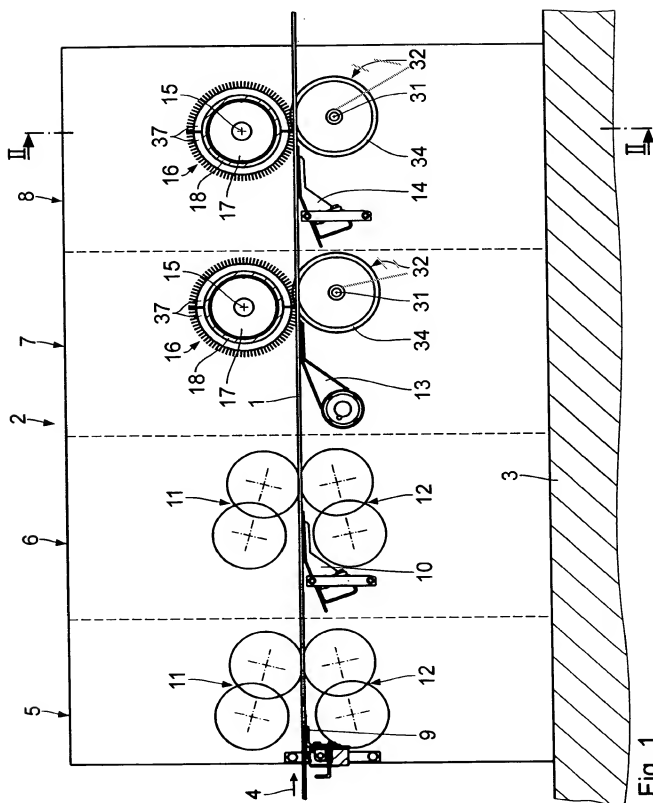


Fig. 1

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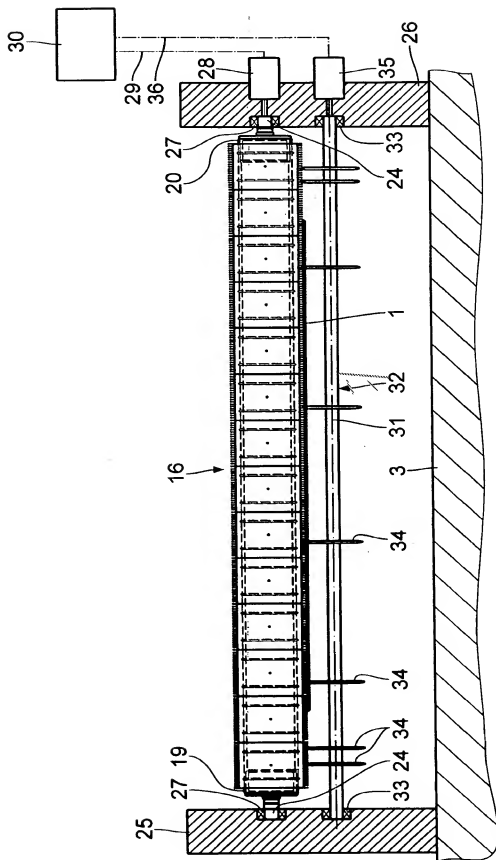


Fig. 2